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PROCESS DESIGN MANUAL FOR SLUDGE TREATMENT AND DISPOSAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

Municipal Environmental Research Laboratory
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NOTICE

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FOREWORD

The formation of the United States Environmental Protection Agency marked a new era of environmental awareness in America. This Agency's goals are national in scope and encompass broad responsibility in the areas of air and water pollution, solid wastes, pesticides, and radiation. A vital part of EPA's national pollution control effort is the constant development and dissemination of new technology.

It is now clear that only the most effective design and operation of pollution control facilities using the latest available techniques will be adequate to ensure continued protection of the nation's waters. It is essential that this new technology be incorporated into the contemporary design of pollution control facilities to achieve maximum benefit of our expenditures.

The purpose of this manual is to provide the engineering community and related industry with a new source of information to be used in the planning, design, and operation of present and future wastewater pollution control facilities. It is recognized that there are a number of design manuals and manuals of standard practice, such as those published by the Water Pollution Control Federation, available in the field, and that each of these adequately describes and interprets current engineering practices as related to traditional plant design. It is the intent of this manual to supplement this existing body of knowledge by describing new treatment methods and by discussing the application of new techniques for more effectively removing a broad spectrum of contaminants from wastewater.

Much of the information presented is based on the evaluation and operation of pilot, demonstration, and full-scale plants. The design criteria thus generated represent typical values. These values should be used as a guide and should be tempered with sound engineering judgment based on a complete analysis of the specific application.

This manual is one of several available from Technology Transfer to describe technological advances and new information. Future editions will be issued as warranted by advancing state-of-the-art to include new data as they become available and to revise design criteria as additional full-scale operational information as generated.

ABSTRACT

The purpose of this manual is to present a contemporary review of sludge processing technology, with particular emphasis on design methodology. This is a revision of a manual originally published in October 1974.

The revised edition incorporates chapters on design approach, disinfection, composting, transport, storage, sidestream treatment, and instrumentation. Other sections have been considerably expanded.

Design examples are used throughout the manual to illustrate design principles.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF TABLES

CHAPTER 7

LIST OF TABLES (continued)

LIST OF FIGURES

CHAPTER 6

LIST OF FIGURES (continued)

CHAPTER 7

LIST OF FIGURES (continued)

CHAPTER 8

CHAPTER 9

LIST OF FIGURES (continued)

CHAPTER 12

CHAPTER 15

LIST OF FIGURES (continued)

CHAPTER 13

CHAPTER 14

CHAPTER 15

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